DOCUMENT RESUME

ED 340 729 TM 017 774

TITLE Tests of Achievement and Proficiency: Administrator's Summary. Report No. 9-57427.
INSTITUTION Riverside Publishing Co., Chicago. IL.
PUB DATE 90
NOTE 25p.; A promotional booklet advertising a commercially-available test.
AVAILABLE FROM Riverside Publishing Company, 8420 Bryn Mawr Avenue, Chicago, IL 60631.
PUB TYPE Guides - Non-Classroom Use (055) -- Reports - Descriptive (141)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Achievement Tests; Curriculum Evaluation; *Educational Assessment; Expressive Language; High Schools; *High School Students; Information Sources; Mathematics Tests; Reading Comprehension; Reading Tests; Science Tests; Social Studies; Standardized Tests; Student Evaluation; Test Items; Test Manuals; *Test Use
IDENTIFIERS *Tests of Achievement and Proficiency

ABSTRACT

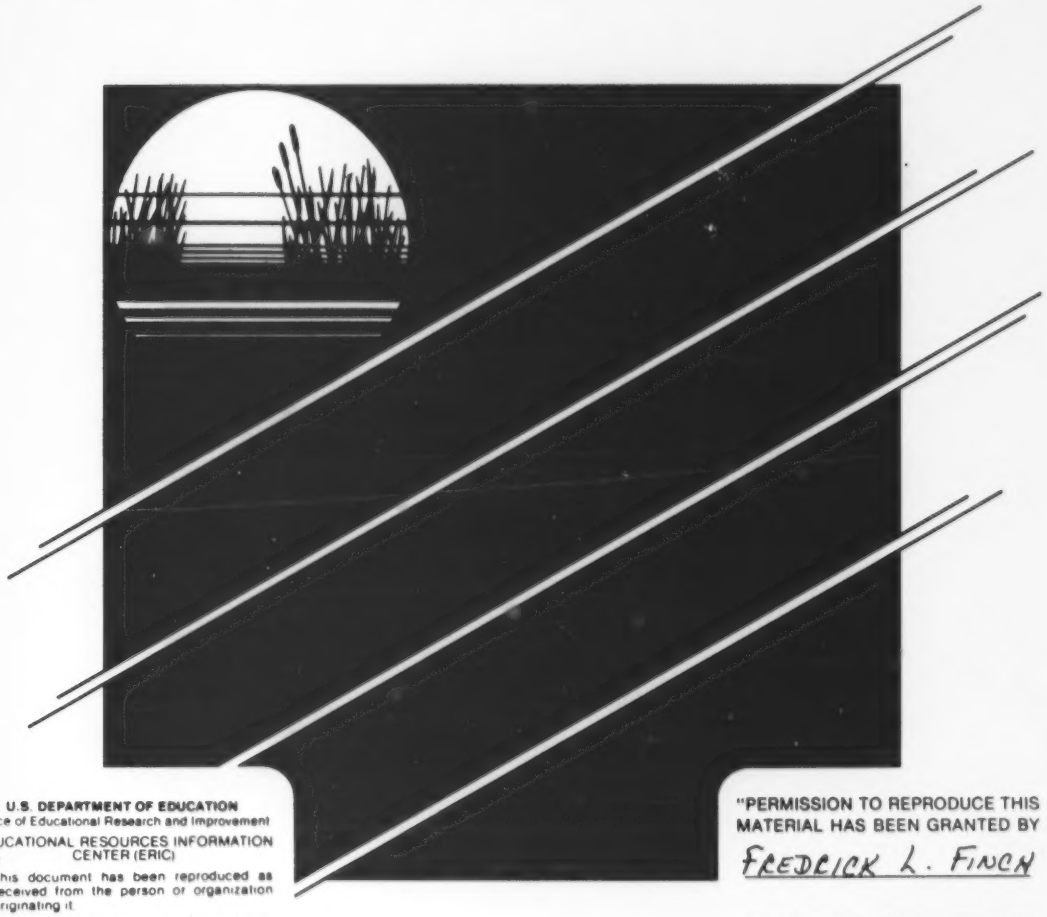
This administrator's summary describes the Tests of Achievement and Proficiency (TAP). The TAP battery is designed to provide information about the strengths and weaknesses of the instructional program and about skills performance of individual students in grades 9 through 12. The TAP may be administered at the year's beginning, middle, or end; norms are provided for October, January, and April, respectively. The Iowa Tests of Basic Skills and the TAP together provide 14 test levels to survey elementary and secondary education in order to ensure accurate grade-to-grade measurement. Tests are numbered to correspond roughly to age rather than grade. The TAP battery consists of the following tests: (1) reading comprehension; (2) mathematics; (3) written expression; (4) using sources of information; (5) social studies; and (6) science. TAP also provides an Applied Proficiency Skills score based on selected items from the first four tests to reflect student application of basic skills. Optional tests in listening and writing are available for all TAP forms. A specific description of each test is given, and the measurement of higher order thinking skills by the TAP tests is described. Information is provided about test reliability, validity, bias, and norming procedures. The optional support materials available are described. Six tables present details about the test battery, and four figures illustrate the discussion. (SLD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED340729

9-57427

ADMINISTRATOR'S SUMMARY



U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

FREDERICK L. FINCH

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

TESTS OF ACHIEVEMENT AND PROFICIENCY™

BEST COPY AVAILABLE

THE RIVERSIDE PUBLISHING COMPANY

TM017774

Riverside's Long-Standing Commitment to Educational Measurement

1916 Houghton Mifflin publishes the *Stanford-Binet Intelligence Scale.*

1940 Houghton Mifflin becomes publisher of the *Iowa Tests of Basic Skills®* (*ITBS®*).

1964 Forms 1 and 2 of the high school *Tests of Academic Progress*, later renamed the *Tests of Achievement and Proficiency™* (*TAP®*), are published.

1968 Form 1 of the *Cognitive Abilities Test™* (*CogAT®*) by Robert L. Thorndike and Elizabeth P. Hagen is published.

1970 E. F. Lindquist, lead author of the *ITBS*, receives Educational Testing Service's award for Distinguished Service to Measurement.

1972 Robert L. Thorndike, a Riverside test author, receives Educational Testing Service's award for Distinguished Service to Measurement.

1978 Houghton Mifflin becomes publisher of the *Gates-MacGinitie Reading Tests.*

1979 The Riverside Publishing Company is formed to carry on Houghton Mifflin's commitment to excellence in testing.

1988 Riverside becomes publisher of the *Iowa Tests of Educational Development®* (*ITED®*).

1989 Riverside publishes *A Century of Ability Testing*, a historical perspective by Robert M. Thorndike.

The *National Proficiency Survey™ Series* (*NPSS™*), a series of 13 high school end-of-course tests, is introduced.

Riverside publishes *College BASE*, which assesses mastery of the college core curriculum.

Chronology

The Riverside Press 1852

The Riverside Publishing Company 1979

H. O. Houghton and Company	1849
The Riverside Press acquired	1852
Hurd and Houghton	1864
Houghton, Mifflin and Company	1872
The Riverside Publishing Company	1979

© 1990 The Riverside Publishing Company. All rights reserved.
ABCDEFGHIJ—BL—99876543210

Tests of Achievement and Proficiency™

- Three forms — G, H, and J — for Grades 9 through 12 (Levels 15 through 18)
- 1988 and 1985 norms available for all forms
- Same structure of test objectives allows all three forms to be used interchangeably
- Same answer sheets used for all forms
- Increased test security
- New scoring and reporting options
- Linked to the *Iowa Tests of Basic Skills* (Grades K-8)
- Combined achievement/ability testing with the *Cognitive Abilities Test*

The Riverside Publishing Company

BEST COPY AVAILABLE

PROGRAM SUMMARY

NAME OF TEST BATTERY

Tests of Achievement and Proficiency™ (TAP®)

PURPOSE

To assess high school students' progress in the basic skills and basic curricular areas

AUTHORS

Dale P. Scannell, Oscar M. Haugh, Alvin H. Schild, Gilbert Ulmer

FORMS

Forms G, H, and J

GRADE LEVELS

Grades 9-12 (Levels 15-18)

TESTS

Reading Comprehension
Mathematics
Written Expression
Using Sources of Information
Social Studies
Science
Writing and Listening Supplements (optional)

TEST FORMAT

Multiple-choice items
Complete and Basic Batteries
Separate Level and Multilevel booklets

TESTING TIME

40-minute class period tests

SCORING

Riverside Scoring Service® (central scoring)
Hand- or machine-scoring options (local scoring)

SCORES

Standard scores, grade-equivalent scores, national percentile ranks, normal curve equivalent scores, stanines, local norms, Applied Proficiency Skills score, Minimum Competency indicators in Reading and Mathematics

INTRODUCTION

The continuous development of the basic skills is one of the most important objectives of schools. At the high school level basic skill development continues to be a major goal as the skills are used in the study of academic subjects and as young adults become more responsible for their own learning and out–of–school pursuits. The *Tests of Achievement and Proficiency* are designed to provide information about strengths and weaknesses in the instructional program and about skills performance of individual students. These tests may be administered at the beginning of a year to determine what students already know, at the end of the year to measure how much has been learned, or at the midpoint to check on progress and plan for the remainder of the year. Norms are provided for the most prevalent testing dates: October 31, January 31, and April 30.

AUTHORS

Dale P. Scannell, senior author of the *Tests of Achievement and Proficiency*, and his colleagues, Oscar Haugh, Alvin Schild, and Gilbert Ulmer, have made important contributions to the field of psychometrics in the areas of test development, item bias, test score scaling, norming, and test score equating. Forms G, H, and J of *TAP*, like their predecessor, Form T, represent the culmination of more than 30 years of experience in developing reliable and valid achievement tests. These authors have had long and active commitments to improving education through collaboration with teachers and administrators of elementary and secondary schools. Their experience in working with school–based colleagues, research on curriculum development and student achievement, and attention to specific curricular areas have enabled them to develop relevant, highly efficient and appropriate instruments to measure the achievement of secondary school students in applying basic skills to academic subjects and to common life experiences of young adults.

TEST DEVELOPMENT

Test development begins with Riverside's university–based team of authors, who evaluate professional literature, curriculum guides, and instructional materials to determine the content and skills that should be tested. Test items are written to match the specifications established as a result of this research. During the editing process, the authors and Riverside's test editors check items for content, reading level, vocabulary, art, and cultural and gender representation.

The next step in the development process is to administer test items to a cross–section of the nation's students at appropriate grade levels. Results of the national tryout are analyzed to evaluate each item's level of difficulty and its capacity to differentiate among skill levels. Items with exemplary statistical characteristics are selected for inclusion in final test forms. Before each test is finalized, items are reviewed by educators representing various geographic regions and cultural groups to ensure cultural and gender fairness. Finally, approved items are assembled into test forms and administered to nationally representative groups of students at appropriate grades for the development of norms.

GENERAL DESCRIPTION OF THE TESTS

The *Tests of Achievement and Proficiency*, together with the *Iowa Tests of Basic Skills* (*ITBS*), provide 14 test levels, more than any other survey achievement program, in order to

ensure accurate grade–to–grade measurement. *TAP* covers the high school years, Grades 9 through 12. The provision of separate, but overlapping, test levels for high school reflects the overlap in the objectives and content of instruction in well–designed curricular programs; there is, therefore, appropriate continuity in measurement that corresponds to good instruction.

Test levels are numbered to correspond roughly to chronological age rather than grade for maximum flexibility in the use of the tests. For example, Levels 15 and 16 of the *Tests of Achievement and Proficiency* correspond to the average achievement levels of students 15 and 16 years old. Level 15 measures students in Grade 9 most efficiently, while Level 16 would typically be used to measure learning of students in Grade 10.

TAP and *ITBS* contain more test items and more skills objectives than other nationally standardized tests to ensure reliable discrimination and more accurate diagnosis of strengths and weaknesses. The separate, but overlapping, sets of items contribute to continuity and stability of measurement, especially for out–of–level testing situations. Also, the overlap of items from level to level facilitates the development of a score scale having good growth properties from grade to grade.

The *Tests of Achievement and Proficiency* battery consists of six tests: Reading Comprehension, Mathematics, Written Expression, Using Sources of Information, Social Studies, and Science. All tests are included in the Complete Battery. A Basic Battery booklet includes all tests except Social Studies and Science. If multilevel booklets are used, each student can be tested at the appropriate level simultaneously with other students taking different levels of the test, since provisions for test administration include uniform directions and time limits (40 minutes for each test).

In addition to the six tests in the complete battery, *TAP* provides an Applied Proficiency Skills score based on selected items from the first four tests. This score reflects the extent to which students can apply basic skills to tasks and situations frequently encountered by young adults in their out–of–school pursuits. For all high school graduates, whether they continue formal education or not, effectively dealing with everyday situations is an important aspect of becoming self–sufficient adults. Table 1 identifies the working times and number of items for each *TAP* test and the number of Applied Proficiency Skills items at each test level.

Table 1

Tests of Achievement and Proficiency, Forms G, H, and J

Tests	Work Time (Min.)	Number of Items Test Levels 15	16	17	18
Reading Comprehension	40	57	58	58	63
Mathematics	40	48	48	48	48
Written Expression	40	63	63	65	66
Using Sources of Information	40	61	66	70	68
Items That Measure Applied Proficiency Skills		63	63	63	63
Basic Battery	**160**	**229**	**235**	**241**	**245**
Social Studies	40	61	62	62	62
Science	40	54	54	54	54
Complete Battery	**240**	**344**	**351**	**357**	**361**
Listening Supplement	40	48	50	50	52
Writing Supplement	40				

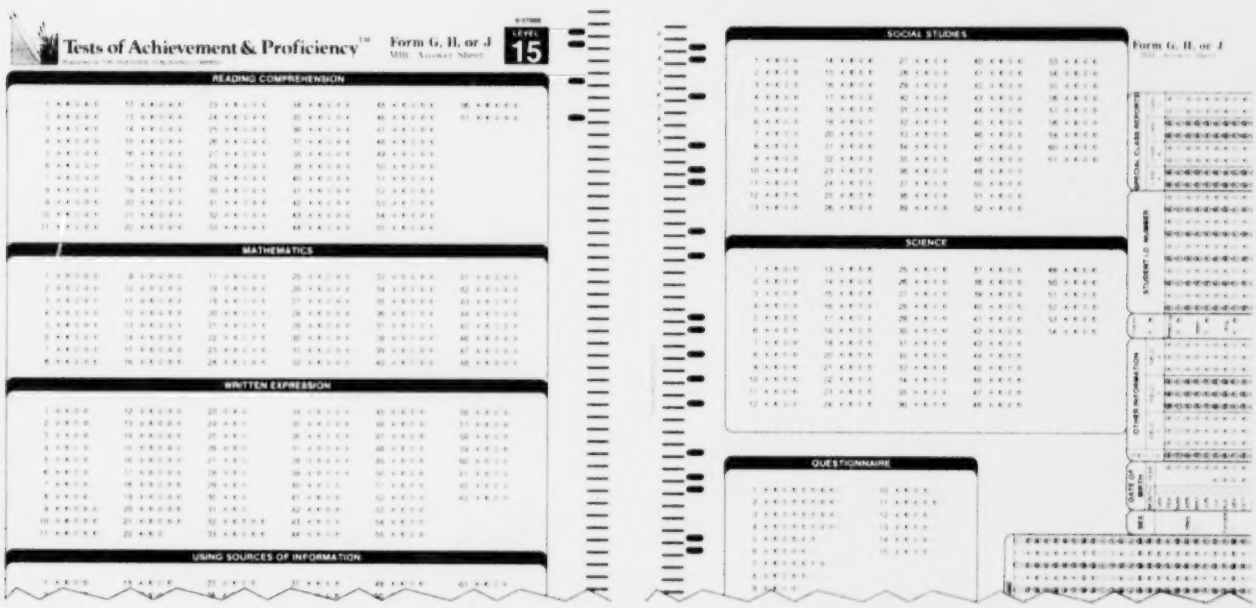
Optional tests in writing and listening are available for all *TAP* forms. The Writing sample provides a direct measure of student writing skills, assessing the students' ability to develop, organize, and express their ideas in four writing modes of ascending difficulty. The modes include: narration (Level 15), explanation (Level 16), analysis (Level 17), and argumentation (Level 18). English teachers commonly express interest in their students' productive and essay–level skills. More and more, good writing tends to be defined as the ability to generate ideas of substance as well as the ability to express those ideas effectively. As a result, test developers have begun to evaluate students' productive writing skills through assessment tools such as this Writing supplement.

The Listening test measures what is ignored but increasingly recognized as an important language skill. When most children enter school, they usually have had considerable experience in listening and relatively little experience in reading. By the time they enter Grade 9, most students have had a great deal of instruction in reading but little more in listening than the admonition of some teachers to listen carefully. The Listening test covers a wide spectrum of listening situations, from immediate recall of isolated details to inferential skills that require synthesis and evaluation. Each test level contains six parts: remembering exactly what is heard, identifying word meanings in context, remembering main points and details, distinguishing between fact and opinion, listening to a lecture, and detecting bias. Listening scores may help identify a cause of below–average achievement.

ANSWER DOCUMENTS

Answers for Levels 15–18 of *TAP* may be marked on MRC or NCS machine–scorable answer sheets, one per level, as shown in Figure 1 below. These answer sheets may be used with the Basic or Complete batteries. A separate, MRC machine–scorable answer sheet is designed for use with all levels of the Listening supplement and an answer folder with all levels of the Writing supplement.

Figure 1
MRC Answer Sheet



BEST COPY AVAILABLE

QUESTIONNAIRE

The Questionnaire at the back of the test booklet is an optional feature of the *Tests of Achievement and Proficiency*. The purpose of this questionnaire is to collect information that can be helpful to students, teachers, and counselors in understanding performance on the tests and in developing plans for students' future activities. In addition, this information can be of assistance to school administrators as they review their curricula.

RELATED ABILITY TESTS

The companion abilities test to *TAP* and *ITBS* is the *Cognitive Abilities Test (CogAT)*, which consists of a Verbal Battery, a Quantitative Battery, and a Nonverbal Battery. The *CogAT* spans Grades 1–12. Combined scoring services allow users to compare grade–equivalent (GE) or developmental standard scores (DSS) obtained on *TAP* with GE's or DSS's predicted from scores on *CogAT*. This service is available when MRC Combined Answer Sheet Folders are used.

VALIDITY

The content domains assessed by *TAP* were determined after a formal review of professional literature, an analysis of state and local curriculum guides, a comprehensive examination of instructional materials, and consultation with teachers and school curriculum specialists. Thus, the most pervasive objectives of the high school curriculum are covered in *TAP*.

SPECIFIC DESCRIPTION OF THE TESTS

READING COMPREHENSION

In the *TAP* Reading Comprehension test, reading the selection is essential to answering the related items. The order of reading comprehension items does not follow the order of the reading passage, so students are encouraged to think, not just gather facts. Many reading comprehension questions require the student to understand what happened, to infer what might happen next, or to draw conclusions about why something happened.

The Reading test is designed to measure students' competence in obtaining information from materials often encountered in secondary school subjects, as well as from materials encountered in common everyday situations. The selections vary widely in topical coverage. They also vary in length, style of writing, and level of reading difficulty. Each item is classified according to whether it requires a factual response, an inference, or a generalization.

MATHEMATICS

The primary purpose of the Mathematics test is to measure students' competence in the use of basic mathematical skills that relate to the quantitative aspects of everyday living. A secondary purpose is to assess student understanding of basic mathematical principles.

Thus, the test stresses the utilitarian or practical nature of mathematics and also covers the structure of the number system.

Each item on the test is classified as belonging to one of seven content areas: operations; equivalent forms and order; common applications; algebra; geometry/measurement; statistics, graphs, and tables; or basic mathematical principles. Each item is also identified as measuring one of the following three skills: computation, concepts, or problem solving.

WRITTEN EXPRESSION

The Written Expression test was designed to measure student ability to apply skills required for clear, concise writing. The format and approach were planned so that the test would approximate actual writing experiences as closely as possible.

Each test item is classified according to two systems of skills: content and thinking process. The content skills are spelling; capitalization and punctuation; grammar and usage; sentence structure and paragraphing; organization of ideas; and writing conventions. The thinking process skills include knowledge/information, comprehension, application/analysis, and synthesis/evaluation.

USING SOURCES OF INFORMATION

An important outcome of secondary school education is the ability to locate and interpret information needed to answer a specific question or to solve a specific problem. The Using Sources of Information test is designed to measure student skills in obtaining information from a variety of sources including maps, charts, graphs, tables, dictionaries, and books. The sources in this test are those used most often by students and adults in classes and everyday life.

Each item is classified according to content and according to thinking process skills. The major content skills are maps; graphs, tables, and diagrams; and reference materials. The thinking process categories are knowledge/information, comprehension, application/analysis, and synthesis/evaluation.

SOCIAL STUDIES

The purpose of the Social Studies test is to measure student achievement relative to the content skills and thinking process components of generally accepted secondary school social studies objectives. A major purpose of the social studies curriculum is to aid students in deriving meanings from their environment and in judging the validity of these meanings through rational processes. The test measures the extent to which students have acquired accurate, valid, and significant knowledge and have developed skills in applying processes of rational inquiry to make valid judgments about the environment.

Each item in the Social Studies test is classified according to three categories: content goals, content type, and thinking process. Historical perspective and patterns/systems are the two content goals. Each of these goals contains five content types: economic, geographic, political, social/anthropologic, and related social sciences. The thinking process skills include knowledge/information, comprehension, application/analysis, and synthesis/evaluation.

SCIENCE

The Science test is designed to assess student achievement of generally accepted secondary school science objectives. The emphasis in the test is on the fundamentals of science and its techniques for advancing knowledge of the physical environment. The test reflects the philosophy that science is primarily a strategy for discovery. Items measure student skill in stating a problem, forming hypotheses, interpreting data, and drawing conclusions supported by those data.

Each item is classified according to content and according to thinking process. The content areas are life science; earth and space science; and chemistry and physics. The test also covers the nature of science and its role in society. The thinking process categories are knowledge/information, comprehension, application/analysis, synthesis/evaluation, and experimental methods and techniques.

HIGHER-ORDER THINKING SKILLS

TAP includes a large proportion of items that measure higher–order thinking skills and require multiple steps for solution. Generalization and inference items measuring critical thinking are included in the individual tests (subtests) in all curricular areas. In Riverside's view, it is mandatory that critical thinking be measured in order to encourage students to develop thinking skills as well as knowledge. The national percentage of students passing a particular item range from less than 30% to more than 90%, indicating not only the full range of difficulty of the items on a test but also the potential for growth on each item from fall to spring.

Higher–order thinking skills may be defined in different ways, but the definition usually includes the use of information to solve new problems, to identify word meaning in context, to extrapolate beyond information available, to generalize from one situation to another, to make predictions, and to use available information to infer conclusions. The percent of *TAP* items classified in these skill categories is shown in Table 2.

Table 2
***Tests of Achievement and Proficiency*, Form J**
Percent of Items by Subtest that Measure Higher–Order Thinking Skills

Grade/ Test Level	Reading Compre–hension	Mathematics	Written Expression	Using Sources of Information	Social Studies	Science
9/15	25	21	48	11	16	24
10/16	29	17	48	17	15	31
11/17	28	19	54	17	15	31
12/18	24	23	53	16	21	28

ITEM ANALYSIS

All items included in the final forms of the *Tests of Achievement and Proficiency* have been subjected to rigorous statistical and editorial review. Item types were tried out with appropriate students, and then a large pool of items was administered to a specially constituted national sample including students from schools in different geographic locations, from urban, rural, and suburban schools, and from schools enrolling different socioeconomic and racial groups. Tryout forms of the test included "anchor items," which are items from previous forms with known psychometric properties.

Data from the national tryout were reviewed carefully to identify items with appropriate characteristics. The results of this analysis, combined with previous reviews to ensure content and curricular appropriateness, resulted in the selection of items that measure effectively the important common goals of secondary school instruction. Summaries of item difficulty and point–biserial indexes can be found in the Manual for School Administrators.

BIAS

All of Riverside's tests receive extensive qualitative review during item tryout and again during standardization. Outside reviewers from every part of the country and representing every racial, age, ethnic and gender group, independently scrutinize and critique every *TAP* item and the test as a whole for cultural bias and fairness. This review is in addition to the extensive qualitative reviews which are conducted by the test authors and Riverside's editorial staff. All items are also subjected to statistical analyses for fairness. Only those items that demonstrate appropriate statistical criteria are included in the tests. Riverside has always taken a strong stance on the need to recognize the contributions and achievements of all racial, ethnic, age, and gender groups and to represent them in a fair and positive manner.

Table 3 lists the numbers of members of Riverside's Item Fairness Review Panel.

Table 3
Item Fairness Review Panel

	White	Black	Hispanic	Native American	Asian	Total
Female	2	6	3	3	2	16
Male	1	7	4	0	1	13
Total	3	13	7	3	3	29

READABILITY

The readability of material in tests other than Reading Comprehension in the *Tests of Achievement and Proficiency* is typically at or below grade level in order not to compromise test validity. In addition, consistent effort is made to ensure that the subject matter of test materials is both of interest to students and appropriate to grade level.

Test format and graphics were carefully planned to correspond to those used in textbooks and other student materials. The style and size of type were determined after a formal survey of state departments of education and a review of technical literature pertaining to print used for high school books. The authors conduct regular research on issues of test graphics and design. In addition, Riverside used professional designers in developing attractive and efficient test booklets.

STANDARDIZATION

In the fall of 1984, Form G of the *TAP* Multilevel Battery, Form G of the *ITBS* Multilevel and Primary Batteries, and the *CogAT* Primary and Multilevel Batteries were jointly standardized and scaled in Grades K–12. The fall sample consisted of approximately 15,000 students per grade from 49 of the 50 states. Criteria used in selecting and weighting the sample were geographic region, size of school district, and socioeconomic status (family education and income).

In the spring of 1985, empirical spring norms were obtained for all three batteries by readministering the batteries in a one–third subsample of schools that had participated in the fall standardization. In the spring, approximately one half of the students tested with Levels 15–18 were administered Form G, the others Form H.

In addition, subsamples of students in the spring standardization in Grades 9–12 were also administered the *TAP* Listening and Writing supplements.

NORMING SAMPLE

Schools were selected at random prior to the time contacts were made for participation in the norming sample. Separate samples were identified for public school districts, Catholic school systems, and private non–Catholic schools. Each of these samples was chosen to be representative of the national population of schools according to type. The sampling procedure was designed to produce (1) a national probability sample representative of the nation's students; (2) a sample of the nation's school buildings to provide the basis for school building norms; and (3) the data on which to base special Catholic, large–city, and high and low socioeconomic norms.

The actual norming sample tested adhered closely to the target design; that is, a high proportion of first–choice schools and districts chosen randomly to represent cells specified by the design did actually participate in the standardization. First–choice schools comprised 62.3% of the participating schools, 22.9% were second–choice, 8.6% were third–choice, and 6.3% were fourth–choice or greater. Riverside test users made up 32% of the sample.

1988 NORMS

Updated national norms for all three forms of *TAP* and *ITBS*—J, G, and H—were reported in 1989. Users of the expanded Riverside Basic Skills Assessment Program may elect to have *TAP* and *ITBS* scored using either the 1985 or 1988 norms. In addition, a new scoring service reports group summary data in both metrics for each grade at the building and district levels.

RELIABILITY

The reliability of a test is a function of the content of the test (e.g., reading passages used), skills measured, item difficulty, the standard deviation of the test, item selection procedures used, procedures used to calculate reliabilities, and other factors. The aggregated reliability data for *TAP* and *ITBS* are unsurpassed by those recorded for any other test. Within-grade Kuder-Richardson 20 reliabilities for the six tests of *TAP* are generally greater than .85, and many exceed .90. The KR-20 reliability of the composite score for each level of *TAP* and *ITBS* is .98. Table 4 shows one part of the KR-20 reliability estimates for internal consistency of *TAP* raw scores (Level 15).

Table 4

Summary Statistics for Student Scores on *TAP*, Form J, 1988 Norms

Level 15, Grade 9
Spring

Level 15, Grade 9
Spring

		Reading Comprehension	Mathematics	Written Expression	Using Sources	Basic Composite	Social Studies	Science	Complete Composite	Applied Proficiency Skills
Number of Items		57	48	63	61		61	54		63
RAW SCORES	Mean	29.8	21.3	39.9	39.0		26.0	24.8		38.0
	SD	10.10	9.32	12.68	12.12		10.50	9.05		11.09
	SEM	3.19	2.80	3.35	3.21		3.48	3.26		3.33
	KR-20	.90	.91	.93	.93	.98	.89	.87	.98	.91
STANDARD SCORES	Mean	173.4	172.7	171.6	175.4	173.4	175.0	175.0	174.1	
	SD	27.80	22.82	31.25	29.95	25.44	25.12	25.64	24.30	
	SEM	8.79	6.85	8.27	7.92	3.99	8.33	9.24	3.38	
GRADE EQUIVALENTS	Mean	103.1	105.1	100.6	103.6	102.9	102.0	103.1	102.7	
	SD	34.96	32.94	34.43	35.95	32.03	30.05	32.01	30.51	
	SEM	11.06	9.88	9.11	9.51	4.53	9.97	11.54	4.31	

SCORE SCALES

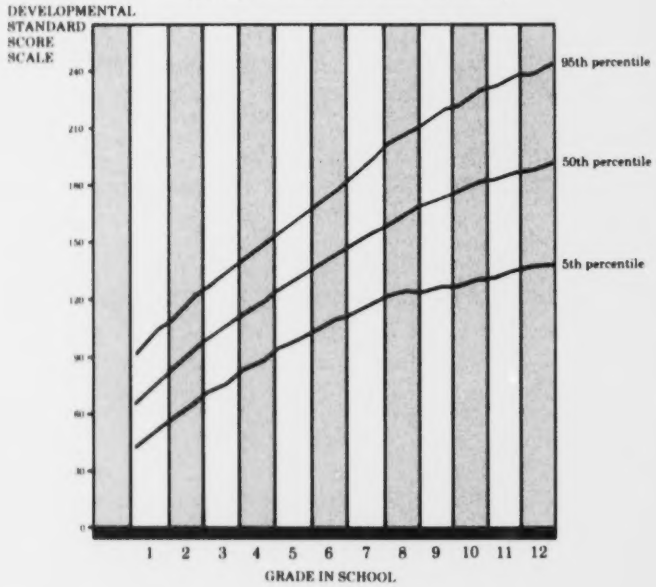
One important characteristic of a good test score scale is that it reflects consistent year-to-year growth. Scales for the various tests of *TAP* and *ITBS* show consistent increases across time and test levels at each percentile point. Figure 2 illustrates this feature by comparing the *ITBS* and *TAP* growth model for Reading Comprehension to that of another standardized achievement test. The *TAP* and *ITBS* produce better score discrimination at all levels—top to bottom and from a percentile rank (PR) of 1 to a PR of 99—than any other test battery.

For *TAP*, the six-month test-retest reliabilities calculated using the Pearson product-moment correlations are consistently high, ranging from .75 to .92, with an average of .82. These results show the stability of *TAP* over time. Table 5 illustrates the six-month test-retest reliabilities for *TAP*.

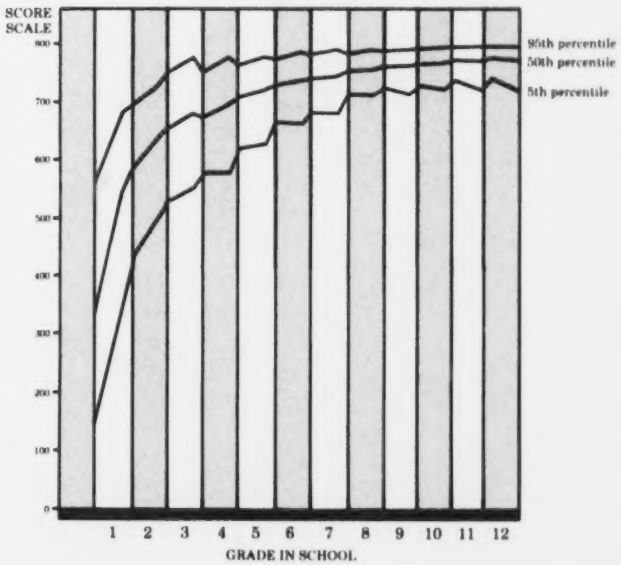
Figure 2
A Comparison of Growth Models for Reading Comprehension, Grades 1–12

Iowa Tests of Basic Skills and
Tests of Achievement and Proficiency

- Consistent grade-to-grade growth
- Growth rate is greater in early grades than in later grades.
- Total Grade 1–12 growth for high-achieving students is greater than for low-achieving students.


DEVELOPMENTAL STANDARD SCORE SCALE
95th percentile
50th percentile
5th percentile
1 2 3 4 5 6 7 8 9 10 11 12
GRADE IN SCHOOL

Three-Parameter IRT Growth Model
Another Achievement Test



- Irregular grade-to-grade growth
- For the "average" student, 68% of score-scale growth in reading skills occurs in Grades 1 and 2; 32% occurs in Grades 3–12.
- Low-achieving students decline in performance during each school year (fall to spring) from Grades 6–12 but show gains from spring to fall.
- Total Grade 1–12 growth for high-achieving students is less than the total growth for low-achieving students.

All data are based on published norms tables.

Table 5
***TAP* Fall/Spring Six-Month Test-Retest Reliabilities**

Grade	N	Reading Comprehension	Mathematics	Written Expression	Using Sources	Basic Composite	Social Studies	Science	Complete Composite
9	2,090	.80	.80	.75	.79	.88	.80	.75	.90
10	1,590	.82	.82	.82	.84	.91	.82	.81	.92
11	1,482	.82	.83	.80	.82	.90	.78	.75	.90
12	1,101	.81	.78	.77	.75	.85	.77	.76	.86

OPTIONAL SUPPORT MATERIALS

Teachers and school administrators will find numerous suggestions in the *TAP* Teacher's Guide for using test results to improve instruction. A full section of the Guide, Section 4, is devoted to reporting and using the results to assist individual students, to evaluate the curriculum, and to inform the general public about educational accomplishments. In addition, "Your Record on *TAP*" provides an effective and appropriate way to communicate important information to students and parents about the meaning of the test results. See Figure 3.

Detailed Skills Objectives with Item Norms booklets are also available for each of the three test forms. They contain the content and skill classifications for the *Tests of Achievement and Proficiency* listed in Section 6 of the Teacher's Guide, specific descriptions of each test item, and the item performance norms for fall (September–November), midyear (December–February), and spring (March–May) testing. These item performance norms indicate the percentage of students in the national standardization that responded correctly to each item. A Mathematics page from this publication is shown in Figure 4.

Figure 3
Parent/Teacher Report Folder

Your Record on the

Tests of Achievement and Proficiency

Forms G, H, or J

What Do You Learn from a Profile Chart?

Your profile will enable you to compare your ranks on the different tests easily and quickly. By analyzing the sample profile shown here, you will learn how to interpret your own scores.

The sample profile has been completed for Jane Prohaska, an eleventh-grade student who took the *Tests of Achievement and Proficiency* in the fall. Jane's percentile ranks for the tests and composites were written in the boxes at the top of the chart; the profile was drawn to represent them graphically.

Jane Prohaska — 11
NAME — GRADE

Tests of Achievement & Proficiency

Form G or H

	RC	MA	LU	MS	SC	SI	CO	TC	AP
NPR	52	87	59	38	63	51	82	65	76	46

Jane's profile, like those for most students, does not go straight across the chart, but forms peaks and valleys. The peaks, particularly at Mathematics and Science, indicate her stronger areas; the valleys, like the one at Using Sources of Information, represent her weaker areas.

Just as they do for most students, Jane's composite ranks fall between her highest and lowest ranks on the tests. Composite ranks, however, are not simply the average of a student's ranks on the tests. If the ranks were consistently high or consistently low, the composite rank might be higher or lower than the rank on any individual test. For example, if Jane's ranks on all the tests were between 90 and 95, her composite rank might be 96 or higher. If Jane had earned very high ranks consistently, her general level of accomplishment would be higher than that of a student who earned both high and medium ranks.

The Applied Proficiency Skills score is not a percentile rank. Jane's score of 46 is simply the number she answered correctly on the Applied Proficiency items. This score is in the medium achievement range for her grade. (Levels 15 through 18 each contain 63 Applied Proficiency questions.)

Jane will be better able to understand her stronger and weaker areas when she examines what courses she has taken in high school, and what subject areas she feels are most important or most enjoyable.

Her higher ranks on the Mathematics and Science tests are likely to be related to the fact that she has taken five semesters of each of these subjects, more than most students in her grade. She also feels that these courses are more important, and more enjoyable, than any others.

Right now, Jane plans to go to a junior college after high school graduation. She is interested in the engineering fields, and knows that her strength in mathematics and science is an advantage for her interest. But she also realizes that the weakness shown in her ability to use sources like tables, graphs, and charts on the Using Sources of Information test could hinder her performance in such fields. She feels that the extra attention she will give to these sources during the next year in high school and during the two years in junior college will give her the preparation she needs for an engineering program.

BEST COPY AVAILABLE

Figure 4
TAP Detailed Skills Objectives

Level 15

MATHEMATICS Level 15	(No. of Items) Item No.	Item Norms Grade 9 F	M	S
MATHEMATICS	**(48)**	**40**	**42**	**44**
OPERATIONS	**(10)**	**61**	**63**	**65**
A1 Addition with integers	1	87	89	90
A1 Addition with fractions	37	63	65	68
A1 Subtraction with integers	19	75	76	76
A1 Subtraction with fractions	8	62	65	68
A2 Mult'n with integers	17	85	85	86
A2 Division with integers	33	84	84	84
A2 Division with fractions	18	13	15	17
A2 Division with decimals	34	63	65	67
A2 Percent less than 100%	25	33	37	41
A2 Percent greater than 100%	38	43	46	49
EQUIVALENT FORMS/ORDER	**(2)**	**42**	**44**	**46**
B Change fraction to percent	13	19	22	24
B Arrange decimals by size	35	66	66	67
COMMON APPLICATIONS	**(6)**	**35**	**37**	**39**
C Add & subtr with fractions	5	35	38	41
C Division with fractions	46	21	24	27
C Computing wages	32	41	44	47
C Computing interest	23	25	26	27
C Ratio & proportion	10	45	46	48
C Using an inequality	15	44	45	46
ALGEBRA	**(6)**	**37**	**39**	**42**
D1 Use of algebraic language	6	19	22	24
D1 Use of algebraic language	14	62	64	66
D1 Algebraic language: exponents	3	44	47	49
D1 Algebraic language: exponents	45	10	11	12
D2 Solving an equation	4	52	54	57
D2 Inequality: number line	11	35	38	42
GEOMETRY AND MEASUREMENT	**(11)**	**28**	**30**	**32**
E1 Metric measure: units	12	21	23	26
E1 Fractions: inches & yards	36	24	27	29
E1 Scale drawing: proportion	2	56	59	62
E2 Recognizing a geom figure	30	50	52	54
E3 Areas of rectangles	24	25	28	30
E3 Areas: square & rectangle	7	20	22	24
E3 Width of rectangle	47	18	20	21
E3 Circumference of a circle	39	22	24	26
E3 Volume of a solid	40	37	38	40
E4 Angle measurement	43	28	29	30
E4 Similar triangles	21	11	12	13

MATHEMATICS (Cont'd) Level 15	(No. of Items) Item No.	Item Norms Grade 9 F	M	S
STATISTICS/GRAPHS/TABLES	**(6)**	**40**	**42**	**45**
F Understanding of mean	26	49	51	53
F Calculating mean	42	24	29	34
F Interpreting statistical graph	27	70	71	72
F Interpreting statistical graph	28	46	49	52
F Interpreting statistical graph	29	27	31	34
F Interpreting circle graph	41	21	24	26
BASIC MATH PRINCIPLES	**(7)**	**35**	**37**	**39**
G1 Least common denominator	22	46	49	52
G1 Sets/intersection & union	44	13	16	18
G1 Closure of a set	16	24	25	26
G2 Recognition of a pattern	48	25	27	29
G3 Rounding a decimal	20	78	78	79
G3 Numeral systems: bases	31	26	28	30
G3 Numeration/powers of ten	9	36	37	38

LEGEND

- **A** Operations
  - **A1** Addition & Subtraction
  - **A2** Multiplication & Division
- **B** Equivalent Forms and Order
- **C** Common Applications
- **D** Algebra
  - **D1** Use of Algebraic Language
  - **D2** Equations and Inequalities
- **E** Geometry and Measurement
  - **E1** Measurement
  - **E2** Recognizing Types & Parts of Geometric Figures
  - **E3** Area & Perimeter of Plane Figures
  - **E4** Use of Geometric Figures in Description & Proof
- **F** Statistics, Graphs & Tables
- **G** Basic Mathematical Principles
  - **G1** Factors, Multiples & Sets
  - **G2** Functions and Rational Numbers
  - **G3** Numerals

SCORING SERVICES AND REPORTS

In any situation in which test data are used, the scores should be viewed as one type of information to be considered in conjunction with all other pertinent data. In addition, school personnel must exercise caution so that test scores are not overinterpreted or used inappropriately.

Interpretations of scores for classes or schools are based on responses to four essential types of questions:

1. How does the level of achievement compare with what is reasonable to expect, taking into consideration the ability and prior achievement of the group and the nature of the curriculum offered by the school?

2. How does the performance compare with that of other groups at the same grade level?

3. Has reasonable yearly progress been made?

4. What are the relatively strong and weak areas of the program?

If test data are to be used effectively in answering questions of this type, the scores must be in a form which facilitates interpretation and provides information that is as complete as possible. Raw scores (scores reported simply as the number of items answered correctly on a test) can seldom be interpreted meaningfully unless standards of performance are established in advance.

To aid in the interpretation of student performance, scores on standardized tests are converted into one or more kinds of derived scores. Derived scores describe student performance in ways which may be interpreted more directly. All of the derived scores available for the *Tests of Achievement and Proficiency* and all of the report forms developed to enhance the utility of test data are described in detail in Section 4 of the Manual for School Administrators. The specific advantages and uses of the different test scores are explained in the Manual.

Most frequently, a raw score on *TAP* is converted to a Standard Score (SS) because this score scale is the most appropriate for assessment at the high school level. The standard score scale is continuous across the levels of achievement measured by the *Iowa Tests of Basic Skills* and the *Tests of Achievement and Proficiency*. Within-grade percentile ranks are provided for fall, midyear, and spring. Also available are grade-equivalents, normal curve equivalents, within-grade stanines, and special percentile ranks.

In addition, two nonscale scores can be obtained from results on the *Tests of Achievement and Proficiency:*

1. Minimum Competency in reading and mathematics skills

2. Applied Proficiency Skills in everyday life situations

The *TAP* can be hand- or machine-scored. A comprehensive variety of score reports are available from the Riverside Scoring Service® to meet the needs of teachers, administrators, counselors, students, and parents. Table 6 identifies the primary and secondary users of each type of *TAP* score report. Samples of three different types of score reports are shown on the pages that follow.

Summary data for the *ITBS, TAP,* and *CogAT* are available on diskette or tape. The *COR-16* software package allows users to produce files on their own equipment and reorganize them based on grade, coded fields, score ranges, Chapter 1 coding, or sex. Student list reports may then be generated from these files.

Table 6

Primary (1) and Secondary (2)
***TAP* Score Report Users**

	Students	Parents	Teachers	Curriculum Coordinators	Bldg./Dist. Administrators	Counselors	Researchers
1. Student Criterion-Referenced Skills Analysis	2	2	1	—	2	2	—
2. Pupil Profile Narrative							
a. Teacher copy	—	—	1	—	2	1	—
b. Parent copy	2	1	1	—	—	—	—
3. Building Criterion-Referenced Skills Analysis	—	—	—	1	1	—	2
4. Group Narrative Report	—	—	—	2	1	—	2
5. Class/Building/System Summaries	—	—	—	2	1	—	2
6. Group Item Performance Record	—	—	1	1	1	—	2
7. List Report by Class Section	—	—	1	—	—	—	—
8. Student Press-On Labels	—	1	1	—	1	—	—
9. List Reports of Student Scores							
a. List by Homeroom	—	—	1	—	1	2	2
b. List in Alphabetical Order	—	—	1	—	1	1	2
c. List in Ranked Order	—	—	—	2	1	1	2
d. Alphabetical List by Building/System	—	—	—	2	1	1	2
10. Frequency Distribution	—	—	—	1	1	—	1
11. Pre/Post Reporting	—	—	2	1	1	—	1
12. Individual Performance Profile	2	1	1	—	—	—	—
13. Individual Item Analysis	2	1	1	—	—	—	—
14. Ranked Lists by Skill	—	—	1	2	2	—	—
15. Answer Document Return	—	—	1	—	1	—	—
16. Student Data—Diskette	—	—	—	2	1	2	1
17. Student Magnetic Data Tape	—	—	—	2	1	2	1
18. Coded Summaries	—	—	—	2	1	2	1
21. Class Diagnostic Report							
a. Pupil and Class	—	—	1	2	2	—	—
b. Pupil/Class/Building/System	—	—	1	1	1	—	—
22. Summary of Achievement by Ability	—	—	—	2	1	2	1
23. Class Item Response Record	—	—	1	2	2	—	2
24. a. Evaluator's Summary—Report	—	—	—	2	1	2	1
b. Evaluator's Summary—Diskette	—	—	—	2	1	2	1
c. Evaluator's Summary—Tape	—	—	—	2	1	2	1
25. Scannable SAS Scores	—	—	—	—	1	—	1
26. Resequenced Labels	—	—	1	—	1	—	—
29. Customized Skills Reporting	2	2	1	1	1	2	2
30. Comparative Norms Report	—	—	—	2	1	2	1

The table above lists the primary users of score reports with a 1 and secondary users of the reports with a 2.

Diverse Scoring Services

A Report For Every Need

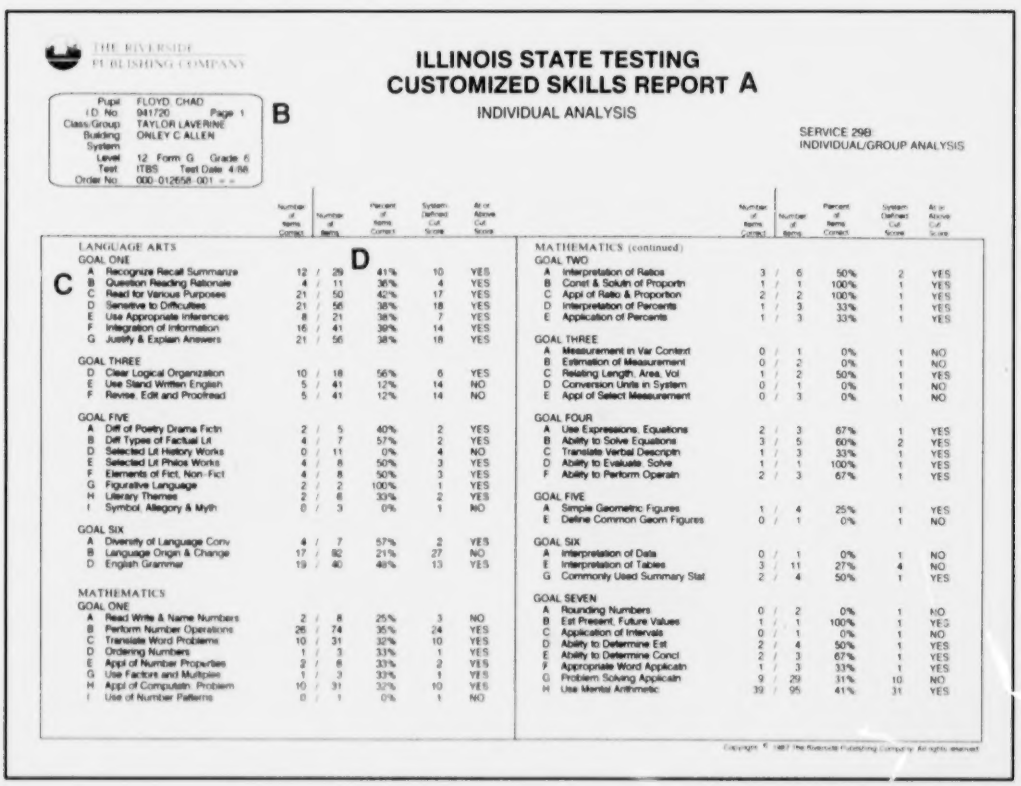
Service 29 allows the local district or state to redefine *TAP* and *ITBS* items into new skill classifications. A customized *ITBS* individual report developed for use in Illinois is shown. Similar customized reports can be provided for all levels of *TAP* and *ITBS*. The summary report for each class, building, and system is in a similar format.

A One original copy of the report is provided for each student, class, building, and system. Additional copies are available.

B This Grade 6 report is for Chad Floyd.

C The state goals and state skill categories within each goal are listed here.

D Number correct, number of items in each skill category, percent correct, and information pertaining to cut scores are provided.



THE RIVERSIDE PUBLISHING COMPANY

ILLINOIS STATE TESTING
CUSTOMIZED SKILLS REPORT A
INDIVIDUAL ANALYSIS

SERVICE 29B
INDIVIDUAL/GROUP ANALYSIS

Pupil: FLOYD, CHAD
I.D. No: 941720 Page 1
Class/Group: TAYLOR LAVERNE
Building: ONLEY C ALLEN
System:
Level: 12 Form: G Grade: 6
Test: ITBS Test Date: 4/88
Order No: 000-012658-001 • •

B

C

D

		Number of Items Correct	Number of Items	Percent of Items Correct	System-Defined Cut Score	At or Above Cut Score
LANGUAGE ARTS						
GOAL ONE						
A	Recognize Recall Summarize	12	29	41%	10	YES
B	Question Reading Rationale	4	11	36%	4	YES
C	Read for Various Purposes	21	50	42%	17	YES
D	Sensitive to Difficulties	21	56	38%	18	YES
E	Use Appropriate Inferences	8	21	38%	7	YES
F	Integration of Information	16	41	39%	14	YES
G	Justify & Explain Answers	21	56	38%	18	YES
GOAL THREE						
D	Clear Logical Organization	10	18	56%	6	YES
E	Use Stand Written English	5	41	12%	14	NO
F	Revise, Edit and Proofread	5	41	12%	14	NO
GOAL FIVE						
A	Diff of Poetry Drama Fictn	2	5	40%	2	YES
B	Diff Types of Factual Lit	4	7	57%	2	YES
D	Selected Lit History Works	0	11	0%	4	NO
E	Selected Lit Philos Works	4	8	50%	3	YES
F	Elements of Fict, Non-Fict	4	8	50%	3	YES
G	Figurative Language	2	2	100%	1	YES
H	Literary Themes	2	6	33%	2	YES
I	Symbol, Allegory & Myth	0	3	0%	1	NO
GOAL SIX						
A	Diversity of Language Conv	4	7	57%	2	YES
B	Language Origin & Change	17	82	21%	27	NO
D	English Grammar	19	40	48%	13	YES
MATHEMATICS						
GOAL ONE						
A	Read Write & Name Numbers	2	8	25%	3	NO
B	Perform Number Operations	26	74	35%	24	YES
C	Translate Word Problems	10	31	32%	10	YES
D	Ordering Numbers	1	3	33%	1	YES
E	Appl of Number Properties	2	6	33%	2	YES
G	Use Factors and Multiples	1	3	33%	1	YES
H	Appl of Computatn Problem	10	31	32%	10	YES
I	Use of Number Patterns	0	1	0%	1	NO

		Number of Items Correct	Number of Items	Percent of Items Correct	System-Defined Cut Score	At or Above Cut Score
MATHEMATICS (continued)						
GOAL TWO						
A	Interpretation of Ratios	3	6	50%	2	YES
B	Concl & Solutn of Proportn	1	1	100%	1	YES
C	Appl of Ratio & Proportion	2	2	100%	1	YES
D	Interpretation of Percents	1	3	33%	1	YES
E	Application of Percents	1	3	33%	1	YES
GOAL THREE						
A	Measurement in Var Contxt	0	1	0%	1	NO
B	Estimation of Measurement	0	2	0%	1	NO
C	Relating Length, Area, Vol	1	2	50%	1	YES
D	Conversion Units in System	0	1	0%	1	NO
E	Appl of Select Measurement	0	3	0%	1	NO
GOAL FOUR						
A	Use Expressions, Equations	2	3	67%	1	YES
B	Ability to Solve Equations	3	5	60%	2	YES
C	Translate Verbal Descriptn	1	3	33%	1	YES
D	Ability to Evaluate, Solve	1	1	100%	1	YES
F	Ability to Perform Operatn	2	3	67%	1	YES
GOAL FIVE						
A	Simple Geometric Figures	1	4	25%	1	YES
E	Define Common Geom Figures	0	1	0%	1	NO
GOAL SIX						
A	Interpretation of Data	0	1	0%	1	NO
E	Interpretation of Tables	3	11	27%	4	NO
G	Commonly Used Summary Stat	2	4	50%	1	YES
GOAL SEVEN						
A	Rounding Numbers	0	2	0%	1	NO
B	Est Present, Future Values	1	1	100%	1	YES
C	Application of Intervals	0	1	0%	1	NO
D	Ability to Determine Est	2	4	50%	1	YES
E	Ability to Determine Concl	2	3	67%	1	YES
F	Appropriate Word Applicatn	1	3	33%	1	YES
G	Problem Solving Applicatn	9	29	31%	10	NO
H	Use Mental Arithmetic	39	95	41%	31	YES

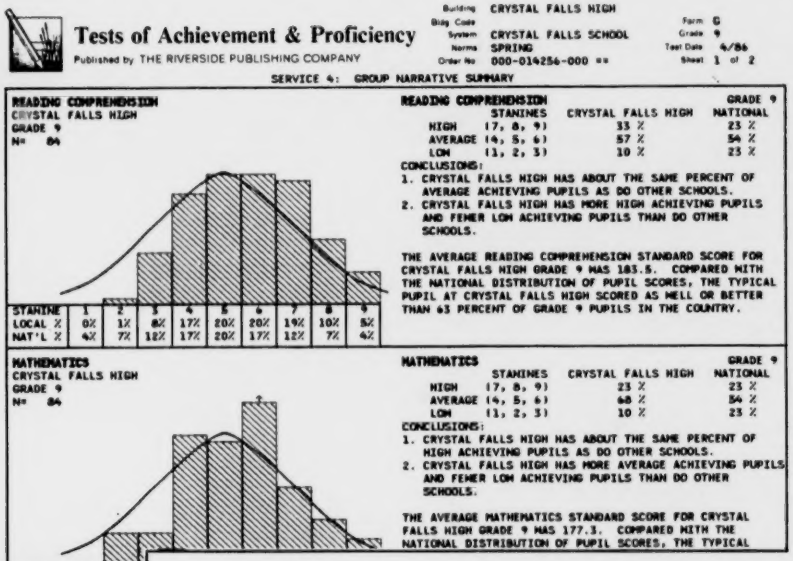
Copyright © 1987 The Riverside Publishing Company. All rights reserved.

Actual size of the report is $8\frac{1}{2}$" x 11".

BEST COPY AVAILABLE

Riverside...The First Test Publisher to Provide

narrative reports, local norms, frequency distributions, combined achievement/ability reporting, group item analyses, machine-scorable booklets



Tests of Achievement & Proficiency
Published by THE RIVERSIDE PUBLISHING COMPANY

Building CRYSTAL FALLS HIGH
Bldg Code
System CRYSTAL FALLS SCHOOL
Norms SPRING
Order No 000-014256-000 ==
Form G
Grade 9
Test Date 4/86
Sheet 1 of 2

SERVICE 4: GROUP NARRATIVE SUMMARY

READING COMPREHENSION
CRYSTAL FALLS HIGH
GRADE 9
N= 84

STANINE	1	2	3	4	5	6	7	8	9
LOCAL %	0%	1%	8%	17%	20%	20%	19%	10%	5%
NAT'L %	4%	7%	12%	17%	20%	17%	12%	7%	4%

READING COMPREHENSION — GRADE 9

	STANINES	CRYSTAL FALLS HIGH	NATIONAL
HIGH	(7, 8, 9)	33 %	23 %
AVERAGE	(4, 5, 6)	57 %	54 %
LOW	(1, 2, 3)	10 %	23 %

CONCLUSIONS:
1. CRYSTAL FALLS HIGH HAS ABOUT THE SAME PERCENT OF AVERAGE ACHIEVING PUPILS AS DO OTHER SCHOOLS.
2. CRYSTAL FALLS HIGH HAS MORE HIGH ACHIEVING PUPILS AND FEWER LOW ACHIEVING PUPILS THAN DO OTHER SCHOOLS.

THE AVERAGE READING COMPREHENSION STANDARD SCORE FOR CRYSTAL FALLS HIGH GRADE 9 WAS 183.5. COMPARED WITH THE NATIONAL DISTRIBUTION OF PUPIL SCORES, THE TYPICAL PUPIL AT CRYSTAL FALLS HIGH SCORED AS WELL OR BETTER THAN 63 PERCENT OF GRADE 9 PUPILS IN THE COUNTRY.

MATHEMATICS
CRYSTAL FALLS HIGH
GRADE 9
N= 84

STANINE	1	2
LOCAL %	0%	8%
NAT'L %	4%	7%

MATHEMATICS — GRADE 9

	STANINES	CRYSTAL FALLS HIGH	NATIONAL
HIGH	(7, 8, 9)	23 %	23 %
AVERAGE	(4, 5, 6)	68 %	54 %
LOW	(1, 2, 3)	10 %	23 %

CONCLUSIONS:
1. CRYSTAL FALLS HIGH HAS ABOUT THE SAME PERCENT OF HIGH ACHIEVING PUPILS AS DO OTHER SCHOOLS.
2. CRYSTAL FALLS HIGH HAS MORE AVERAGE ACHIEVING PUPILS AND FEWER LOW ACHIEVING PUPILS THAN DO OTHER SCHOOLS.

THE AVERAGE MATHEMATICS STANDARD SCORE FOR CRYSTAL FALLS HIGH GRADE 9 WAS 177.3. COMPARED WITH THE NATIONAL DISTRIBUTION OF PUPIL SCORES, THE TYPICAL

Service 4 presents test data to administrators and the community. It highlights group performance through the use of graphic profiles and summarizes achievement with a brief narrative.

Actual size of the reports is 8½" x 11".

STANINE	1	2
LOCAL %	0%	8%
NAT'L %	4%	7%

WRITTEN EXPRESSION
CRYSTAL FALLS HIGH
GRADE 9
N= 84

STANINE	1	2
LOCAL %	12%	6%
NAT'L %	4%	7%

USING SOURCES OF I
CRYSTAL FALLS HIGH
GRADE 9
N= 84

The Riverside Publishing Company

SERVICE 12:
INDIVIDUAL PERFORMANCE PROFILE

Student ALDREDGE, BRENDA
I D No 021359
Class/Group MR VINCENT KASPAR
Building CRYSTAL FALLS HIGH
System CRYSTAL FALLS SCHOOL
Level 15 Form G Grade 9
Norms SPRING Test Date 4/86
Order No 000-014256-000== Page 1

Tests of Achievement & Proficiency

	SS	NPR-S	NATIONAL PERCENTILE RANK (LOW / AVERAGE / HIGH)
READING COMPREHENSION	169	38	4 -X-
MATHEMATICS	168	40	5 --X--
WRITTEN EXPRESSION	169	45	5 --X--
USING SOURCES OF INFORMATION	175	49	5 --X-
BASIC COMPOSITE	169	43	5 -X
SOCIAL STUDIES	169	26	4 --X-
SCIENCE	161	28	4 --X---
COMPLETE COMPOSITE	166	37	4 -X-

% Items	Pupil %C	Nat'l %C		LOW	AVG	HIGH
			READING COMPREHENSION			
42	55	64	Textbook		-X-	
15	67	71	Everyday		-X--	
25	68	68	Fact		-X-	
23	43	65	Inference	-X-		
9	67	63	Generalization		--X-	

% Items	Pupil %C	Nat'l %C		LOW	AVG	HIGH
			USING SOURCES OF INFO			
14	63	61	Maps		-X--	
8	63	67	Graphs		-X--	
14	64	62	Table of Contents and Indexes		-X--	
10	70	67	Dictionaries		-X--	
13	85	80	General Reference		-X-+	
14	88	76	Knowledge/Informat'n		--X-	
24	54	62	Comprehension		+X--	
14	81	70	Application/Analysis		-X+	
3	33	55	Synthesis/Evaluation	---X--		
			SOCIAL STUDIES			
25	52	50	History		-X-	
36	42	61	Patterns and Systems	-X+		
14	29	60	Economic	--X-		
11	73	64	Geographic		--X+	
14	25	56	Political	--X-		
9	78	62	Social/Anthropologic		--X-	
11	45	59	Related Soc Sciences		--X-	
13	46	61	Knowledge/Informat'n		-X--	
21	48	61	Comprehension		--X-	
19	42	57	Application/Analysis		-X-	
8	50	62	Synthesis/Evaluation		+X--	

% Items	Pupil %C	Nat'l %C		LOW	AVG	HIGH
			SCIENCE			
18	84	69	Nature of Science		--X+	
14	80	80	Life Science		--X--	
17	41	62	Earth and Space	-X-+		
5	0	49	Chemistry/Physics	X--		
25	44	59	Knowledge/Informat'n	--X-		
12	58	50	Comprehension		--X+	
9	22	49	Application/Analysis	--X---		
4	50	48	Synthesis/Evaluation		--X-+	
4	50	44	Experimental Methods and Techniques		---X-+	
			APPLIED PROFICIENCY			
32	72	73	Obtaining Informat'n		-X-	
15	67	71	Primarily Verbal		-X--	
7	71	71	Visual Materials		--X--	
10	80	80	Reference Materials		--X--	
14	71	62	Communicating Ideas		--X+	
17	76	61	Applied Mathematics		-X-	

Copyright © 1986 The Riverside Publishing Company All rights reserved

Service 12 can be used to evaluate a student's strengths and needs. Performance is displayed graphically, as well as in tabular form, for ease of interpretation.

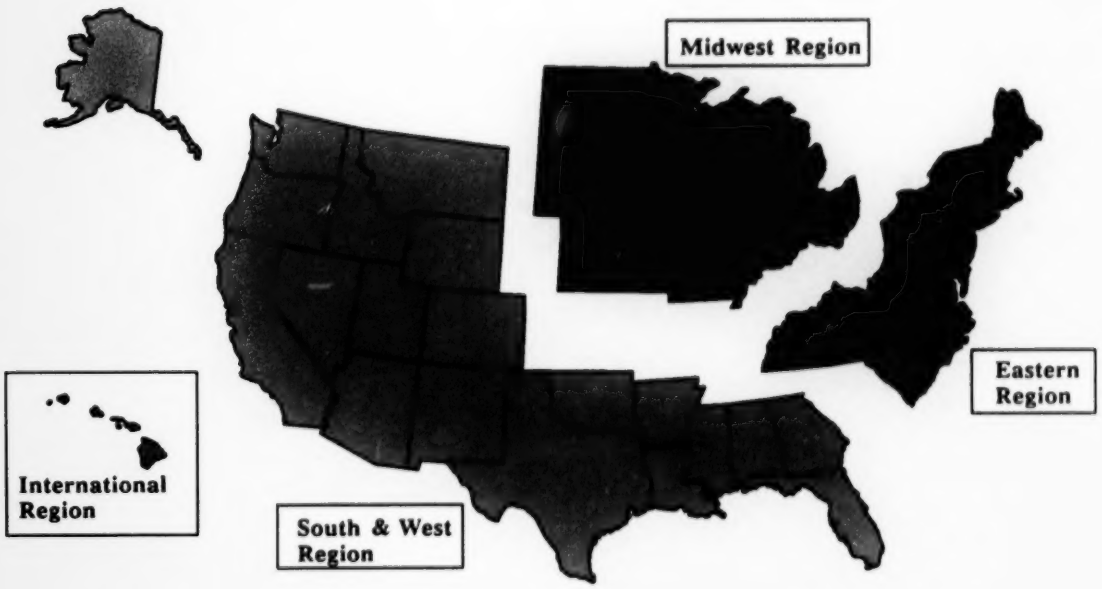
At the top of the report, the main score (standard score), national percentile rank, and stanine are reported for each individual test, area total, and battery composite. The body of the report lists the number of items, pupil percent correct, and national percent correct for each of the tested skills. A separate section records ability to apply higher-order thinking skills in selected areas.

BEST COPY AVAILABLE

Ordering Information

More information is available regarding the *Tests of Achievement and Proficiency.* Call your local representative or The Riverside Publishing Company, 8420 Bryn Mawr Avenue, Chicago, Illinois 60631 (toll-free telephone number 1-800-323-9540) to order the following products:

Examination Kit, Levels 15-18, Forms G/H	9-57000
Examination Kit, Levels 15-18, Form J	9-57400
Manual for School Administrators, Forms G/H	9-57126
Manual for School Administrators Supplement, Form J	9-57426
Detailed Skills Objectives with Item Norms, Form G	9-57129
Detailed Skills Objectives with Item Norms, Form H	9-57110
Detailed Skills Objectives with Item Norms, Form J	9-57430
Administrator's Summary	9-57427



[redacted]

Midwest Region
8420 Bryn Mawr Avenue
Chicago, IL 60631
800/323-9540 (except IL)
312/693-0040
Fax: 312/693-0325

[redacted]

Eastern Region
101 Campus Drive
Princeton, NJ 08540
609/520-0600
Fax: 609/520-1667

[redacted]

International Region
c/o Houghton Mifflin Company
One Memorial Drive
Cambridge, MA 02142, USA
617/252-3270
Telex: 4430254
Fax: 617/252-3234

[redacted]

South & West Region
2550 Beckleymeade Avenue
Suite 135, LB-14
Dallas, TX 75237
800/442-8855
214/780-7294
Fax: 214/296-2737

9-97628

© 1990 The Riverside Publishing Company. All rights reserved.

BEST COPY AVAILABLE

BEST COPY AVAILABLE

TAP®

A Test Battery of Riverside's K-12 Basic Skills Assessment Program

The Riverside Publishing Company